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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,081	03/13/2001	Fumihiro Arakawa	DAIN:580	9115

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EXAMINER

AMARI, ALESSANDRO V

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 06/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/804,081

Applicant(s)

ARAKAWA ET AL.

Examiner

Alessandro V. Amari

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-7 and 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 18 March 2003 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Nilsen et al U.S. Patent 6,356,389.

In regard to claim 1, Nilsen et al discloses (see Figures 1, 20) an antireflection film comprising a transparent layer (24) formed of a cured product of an ionizing radiation-curable resin composition as described in column 5, lines 40-43; and a concave-convex portion as shown in Figure 20 provided on one side of the transparent layer, the concave-convex portion comprising fine concaves and convexes provided at a

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pitch of not more than the wavelength of light as described in column 8, lines 15-21 and as shown in Figure 20 and a layer (26), provided on the fine concaves and convexes, formed of a resin composition having a lower light refractive index than a refractive index of the transparent layer as described in column 5, lines 40-56. Although the prior art does not specifically disclose the refractive indices of the transparent and other layer, this is seen to be an inherent teaching of the layers since the prior art discloses that the transparent layer with the concave-convex portions formed on it is formed of a polymer such as polycarbonate ($n_{\text{polycarbonate}} = 1.584-1.6$) and that the layer provided on the concaves-convexes is a polypropylene ($n_{\text{polypropylene}} = 1.49$), thus meeting the claim limitations. The Examiner has included reference information (see "Goodfellow Material Information" cited in PTO-892) regarding the refractive indices of each of the respective materials as part of this Office action.

Regarding claim 2, Nilsen et al discloses that the transparent layer is backed by a transparent substrate film (22) as shown in Figure 1.

Regarding claim 3, Nilsen et al discloses that the transparent layer has a surface hardness of not less than H in terms of pencil hardness as described in column 5, lines 40-56. Although the prior art does not specifically disclose the surface hardness of the transparent layer, this is seen to be an inherent teaching of the layer since the prior art discloses that it is polycarbonate which has a hardness of H as shown in the material reference information (see "Goodfellow Material Information" cited in PTO-892) provided with this Office action.

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Regarding claim 7, Nilsen et al discloses a display device comprising a display section; and, stacked or disposed on the display section in its viewer side, the antireflection film as shown in Figure 1 and as described in column 3, lines 39-41.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 5-7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oka et al U.S. Patent 6,064,524 in view of Clapham et al U.S. Patent 4,013,465.

In regard to claim 1, Oka et al teaches (see Figure 12A) an antireflection film comprising a transparent layer (12) formed of a cured product of an ionizing radiation-curable resin composition as described in column 3, lines 61-67 and column 4, lines 1-13; and a surface portion provided on one side of the transparent layer as shown in Figure 12A and a layer (13), provided on the surface portion, formed of a resin composition having a lower light refractive index than a refractive index of the transparent layer as described in column 24, lines 13-18.

Regarding claim 2, Oka et al teaches (see Figure 12A) that the transparent layer is backed by a transparent substrate film (11).

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Regarding claim 3, Oka et al teaches that the transparent layer has a surface hardness of not less than H in terms of pencil hardness as described in column 18, lines 11-14.

Regarding claim 5, Oka et al teaches that the film has antistatic properties as described in column 20, lines 35-38.

Regarding claim 6, Oka et al teaches a polarizing element comprising a polarizing plate; and, stacked on the polarizing plate, the antireflection film as described in column 22, lines 20-67 and column 23, lines 1-46.

Regarding claim 7, Oka et al teaches a display device comprising: a display section; and, stacked or disposed on the display section in its viewer side, the antireflection film according to claim 1 as described in column 22, lines 20-67 and column 23, lines 1-46.

Regarding claim 12, Oka et al teaches a display device comprising: a display section; and, stacked or disposed on the display section in its viewer side, the polarizing element according to claim 6 as described in column 22, lines 20-67 and column 23, lines 1-46.

However, in regard to claim 1, Oka et al does not teach a concave-convex portion provided on one side of the transparent layer, the concave-convex portion comprising fine concaves and convexes provided at a pitch of not more than the wavelength of light.

In regard to claim 1, Clapham et al does teach (see Figure 5) a concave-convex portion provided on one side of the transparent layer, the concave-convex portion

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comprising fine concaves and convexes provided at a pitch of not more than the wavelength of light as described in the abstract and column 3, lines 8-22.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the concave-convex portions of Clapham et al in the film of Oka et al in order to provide reduced reflectance properties to the surface portion of Oka over a wider range of wavelengths.

Response to Arguments

6. Applicant's arguments with respect to claims 1-3, 5-7 and 12 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

7. Allowable subject matter indicated for claims 6 and 12 in the previous Office action is withdrawn based on newly uncovered references found in a search necessitated by Applicant's amendment.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alessandro V. Amari whose telephone number is (703) 306-0533. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on (703) 308-1687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

ava *MM*
June 9, 2003

Mark A. Robinson
MARK A. ROBINSON
PRIMARY EXAMINER